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TECHNICAL ASSISTANCE PROJECT

The Nebraska Department of Property Assessment and Taxation
Lincoln, Nebraska

Special Valuation of Agricultural Property: Review and Recommendations

Prepared by: International Association of Assessing Officers

April 2, 2004

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SPECIAL VALUATION OF AGRICULTURAL PROPERTY: REVIEW AND RECOMMENDATIONS

FOR

THE NEBRASKA DEPARTMENT OF PROPERTY ASSESSMENT AND TAXATION

International Association of Assessing Officers

April 2, 2004

Edwin G. Olson, Ph.D.
Emeritus Economics Faculty
Kansas State University

April 2, 2004

Ms. Catherine D. Lang
Property Tax Administrator
Department of Property Assessment and Taxation
State of Nebraska
1033 O Street, Suite 600
Lincoln NE 68508-3686

Dear Ms. Lang:

We hereby submit our review of the Special Valuation procedure of the Nebraska Department of Property Assessment and Taxation. We find that the procedure complies with professionally accepted mass appraisal techniques of the International Association of Assessing Officers. Nonetheless, we offer several recommendations which primarily relate to documentation of the methodology. These recommendations are found in the Executive Summary and in greater detail within the text of the report.

Our review is based on written and verbal information provided by your Department regarding the Special Valuation procedure. Dennis Donner generously offered his time for telephone consultations in which he explained specific assessment procedures of Nebraska's state and county assessors. We appreciate his assistance.

I would like to thank William Wadsworth, Head of the Research Committee of the International Association of Assessing Officers, for his thorough review of earlier drafts and for his editorial suggestions. His efforts greatly improved the final product.

Thank you for the opportunity to review your Department's Special Valuation procedure.

Sincerely,

Edwin G. Olson, Ph.D.
Emeritus Economics Faculty
Kansas State University

Enclosures (2)

Executive Summary

The Nebraska Legislature created statutes which directed that land in agricultural use be assessed at 74 to 80 percent of its agricultural market value, regardless of its location in the state of Nebraska. The Nebraska Department of Property Assessment and Taxation (hereinafter termed the Department) is charged with oversight to assure that the legislative directive is realized. This review focuses on the procedure with which the Department evaluates assessments in eight counties whose agricultural property is substantially influenced by urban activities that cause farmland property values to rise above strictly agricultural market values. The procedure is termed Special Valuation.

The Department derives the agricultural market value (special value) of farmland in urban-influenced counties with a model that utilizes cash rents from special value counties and Gross Rent Multipliers from rural counties. The procedure is straightforward and understandable. The approach does not require either complex guidelines to estimate capitalization rates built up from components of interest rates, or intricate income approaches for valuing farmland that require data for crop prices, federal programs, operating and capital costs, etc. We find that the Department's procedure complies with professionally accepted mass appraisal techniques of the International Association of Assessing Officers.

Nonetheless, in the course of the review of the Department's procedures, we did develop several recommendations.

1. The Department should utilize the terms cash rent and Gross Rent Multipliers rather than income and capitalization rate.

2. The Department should develop detailed documentation of their procedures including:
   - Sources and collection of rental data
   - Criteria and decision makers involved in selecting the special value counties
   - Explanation of why cash rents (that are multiplied by Gross Rent Multipliers) are derived solely from those counties whose special value is being calculated
   - Explanation of why farmland sales with more than one class of land can be categorized as a single classification
   - A description of how "comparable" rural counties are selected for matching with urban, special value counties.
   - How rent-to-value ratios are "correlated" (aggregated) for the special valuation model

- Information on special valuation data and calculations for all urban-influenced counties
- Description of partial revaluation counties, their selection and the partial revaluation procedure

3. We recommend that the Department, in addition to deriving rent per acre from information obtained within special value counties, continue to support these values with rental data from comparable counties. Additional rental data, if judged appropriate, can add credibility to the estimation of agricultural market values in urban counties.

3. We recommend that the Department consider selection of more than five to seven counties for derivation of correlated (averaged) Gross Rent Multipliers.

4. We recommend that the Department explore in the future a means of judging uniformity of agricultural assessments within special value counties. This study could be done with advice from county assessors.

5. Although the data are few and a statistical model would be complex, we suggest that the Department explore the possibility of deriving market value per acre for each class of land directly from data on sales of agricultural land in rural counties

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INTRODUCTION

The Nebraska Constitution [Article VIII, Section 1. (4), (5)] states that the "Legislature may provide that agricultural land and horticultural land, as defined by the Legislature, shall constitute a separate and distinct class of property... The Legislature may enact laws [so that the] value of land actively devoted to agricultural or horticultural use" be valued solely as agricultural land. The Legislature created statutes which directed that land in agricultural use be assessed at 74 to 80 percent of its agricultural market value, regardless of its location in the state of Nebraska. This is termed special valuation and, upon application and approval, is available to property owners engaged in agricultural and horticultural production in areas where land value is influenced by proximity to urban land use. The Nebraska Department of Property Assessment and Taxation (hereinafter denoted as the Department) created regulations to carry out the directives of the Constitution and Legislature.

Farmland in the proximity of residential, recreational, commercial or industrial development (such land will be termed urban in this review) may have a market value influenced by urban uses, and therefore in excess of its value for agriculture and horticulture. Urban assessors record the market-based appraisals of these properties, but are also expected to assess farmland in the vicinity of urban areas at 74 to 80 of agricultural value.

The Department is required by statute to devise procedures to determine whether valuations of the county assessors indeed accomplish the intent of the Constitution and Legislature with regard to valuing land on the sole basis of its agricultural and horticultural uses.

This review of special valuation responds to the following instruction within the Request for Proposal from the Nebraska Department of Property Assessment and Taxation, dated December 31, 2003:

> To determine whether the explained methodology meets requirements of statute for compliance with professionally accepted mass appraisal techniques as to establishing level of value or as an administrative tool for measuring equity in assessment within the class of agricultural and horticultural land. (page 4)

The Nebraska Department of Property Assessment and Taxation asked the International Association of Assessing Officers (IAAO) to evaluate the Department's procedure for deriving special valuation of farmland in urban counties and, if it determines that the procedures are not fully acceptable, "to offer advice as to changes that might make it so."

Definitions:

Special Valuation is defined as the procedure devised by the Nebraska Department of Property Assessment and Taxation to insure that assessment of agricultural farmland is not influenced by non-agricultural uses of land. There are currently eight counties in Nebraska where the majority of land is subject to special valuation.

Special Value is defined as the value that urban-influenced farmland is accorded as a result of the special valuation procedure. It is calculated so that the value of urban farmland is equal to the market value of comparable farmland in rural counties. Special value is derived for (a) four classes of farmland in each urban county and for (b) the total of all farmland in an urban county.

Land Classes utilized by the Department for special valuation are the following four classes of farmland: dry cropland, irrigated cropland, pasture, and other-use farmland (e.g. orchards, nurseries and other intensive uses). Wasteland is eliminated from the procedure. Cropland and pasture data include twenty-four subclasses of land, which are condensed into four for the special valuation procedure.

Assessed Value is a county assessor's valuation of a parcel or aggregation of parcels. In this review, assessed value may refer to (a) the assessed value of a class of farmland within a county or (b) the total assessed value of all agricultural property in a county.

Sales Value is the price paid for a property in the real estate market, with an arms-length transaction.

Agricultural Market Value is defined as the assessed value of rural farmland divided by the assessment/sales ratio for given class of land in a given assessment jurisdiction. Agricultural market values are derived for (a) four classes of farmland and for (b) the total of all agricultural property within a county.

Cash Rents are farmland rents per acre derived from a number of Nebraska data sources; they are condensed into rents for four classes of farmland. Cash rents are paired with agricultural market values for the same four classes of land to obtain Rent to Value Ratios.

Also note the following qualified definitions for mass appraisal and equity in the Department's charge to the IAAO:

Mass Appraisal techniques generally apply to individual properties, but in the Department's special valuation procedure, mass appraisal is applied only to the countywide, aggregate value of entire classes of farmland (e.g. irrigated cropland). (See Standard 6, *Mass Appraisal, Development and Reporting*, [2004] in the Uniform Standards of Professional Appraisal Practices of the Appraisal Foundation.)

Equity in property appraisal generally refers to accuracy of appraisal level and uniformity of individual appraisals among properties within specific categories; e.g., residential housing, cropland. The Department defines equity as the total value of agricultural land in urban counties (after equalization by the Tax Equalization and Review Commission) is assessed so that it equals 74 to 80 percent of the total agricultural value of land. Uniformity of appraisals among parcels is not a part of this review.

THE SPECIAL VALUATION MODEL

The Department's procedure for deriving the market value of agricultural property in urban-influenced areas utilizes cash rents in special value (urban) counties and Gross Rent Multipliers from rural counties to estimate the special value of agricultural land in counties whose land values are subject to urban influences. The special valuation model can be expressed succinctly by the following equations for each of x (four) land classes in y (85) rural counties and z (eight) urban-influenced counties.

ia. (Rural Rent to Value Ratio for land class x in agricultural county y) [1] =
(total cash rent for land x in county y) / (total agricultural market value for land x in county y)

ib. (Gross Rent Multiplier$_{x,y)}$ =
1/ (Rural Rent to Value Ratio$_{x,y}$)

From repetition of the procedure in equation i. for counties whose agricultural land is comparable to that in special value county z, one can obtain average values for the denominator of equation ii.

iia. (Special value for land class x in urban county z) =
(Agricultural rent for land class x in urban county z) /
(Average Rent to Value Ratio for land class x in rural counties with comparable farmland) [2]

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[1] This expression in parentheses could be written more concisely by allowing subscripts to represent land type x and county y, as in equation ib.: (Rural Rent to Value Ratio$_{x,y}$).

[2] The Department does not use a numerical average; rather it uses correlated values which approximate an average.
The Gross Rent Multiplier equivalent for equation iia is
iib: (Special value for land class x in urban county z) =
(Agricultural rent for land class x in urban county z) x (Gross Rent Multiplier for land class x)

This approach conforms to IAAO *Standard on Mass Appraisal of Real Property*, section 4.6.5. that prescribes specific data to aid assessment of an entire class of property.

To bring assessments of urban farmland into conformity with the value of comparable farmland in rural counties, the procedure compares assessed value to special value with the following equation iii:

iii. Total assessed value of farmland in urban county z as a % of total special value in county z =

(Total assessed value of farmland in urban county z) /
(Sum of special values for all x land classes in urban county z)

If equation iii yields results in the range of 74 to 80 percent, an urban county has succeeded in valuing its agricultural property at a level that achieves the objective of special valuation assessment; namely, farmland assessments free of urban influence. If equation iii falls outside the required range, the Tax Equalization and Review Commission can equalize the county-assessed agricultural values so that appropriate levels of assessment are achieved.

REVIEW AND RECOMMENDATIONS FOR CLARIFICATION OF PROCEDURE

The following recommendations are requests for written statements that explain why the Department makes its choices of rental and value data and how it uses the data in the special valuation procedure. These recommendations, which in this section are noted with *italics,* are not to be interpreted as criticisms of procedure, but rather as requests for documentation. In most cases, the Department has well-reasoned explanations for its procedures, yet these are not always available in written form. We turn now to specific comments and *recommendations* regarding the Department's special valuation procedure.

1. Nebraska's procedure for deriving the market value of agricultural property in urban-influenced areas utilizes cash rents in special value counties and Gross Rent Multipliers from rural counties. The procedure is straightforward and understandable. The Nebraska approach does not require either complex guidelines to estimate farm income, or capitalization rates built up from real interest rates, inflation, productivity growth, etc. Nonetheless, the written materials in Nebraska's Request for Proposal and *Reports and Opinions of the Property Tax Administrato*r frequently use the terms income and capitalization rate*.*

We recommend that the Department avoid using the term capitalization rate because the Rent to Value Ratio (or Gross Rent Multiplier) is not a capitalization rate, but rather the numerical result of quantitative analysis with rent and market value data. Even though cash rents approximate net farm income (they could be considered an excellent proxy variable for income if one notes the discrepancies occasioned by property taxation and limited management costs), we recommend that references to income be minimized because income does not need to be derived from a composite of revenue and production costs. Only cash rents and the Gross Rent Multiplier are required to estimate agricultural market value.

2. The Department collects rental data in most of Nebraska's ninety-three counties. Data are obtained for four major classes of agricultural land: irrigated cropland, dryland cropland, grassland, and other agricultural land (e.g. forest, feedlot, nurseries, vineyards).

We recommend that the Department make available to the public written documentation regarding the sources and collection procedures for rental data.

3. Eight counties have been selected for application of special valuation to all agricultural lands: Cass, Douglas, Gage, Lancaster, Otoe, Sarpy, Saunders, and Washington. In the nine special valuation counties, the cash rents that enter in determination of agricultural market value are obtained solely from within each county*.*

We recommend that the Department document (a) the criteria and (b) the decision-makers involved in selection of special valuation (urban) counties and *indicate why cash rent values used for calculation of special value in each of these counties are restricted solely to data from within the county.*

4. Agricultural market values in rural counties for four classes of property are derived from assessment and sales information provided by county assessors in the *Abstract of Assessment.* In this procedure, property values are adjusted to 100 percent of market value by dividing county assessments with assessment/sales ratios. In order to obtain sufficient sales for each class of property, data from three years are combined. The sales data from first two of three years are not adjusted for trends in market values.

We recommend that the Department indicate the rationale for combining three years of unadjusted data.

5. Data for specific classes of property are obtained from property sales that encompass more than one type of property. If more than 50 percent of the acres in a parcel sale are from a given class of land, the sale is assumed to represent only the majority class of property, and the sales price is assigned to that land class. (If there are more than two classes of land in a parcel and none comprises more than 50 percent of the acreage in the parcel, that sale is not used for calculating the assessment/ sales ratio.)

We recommend that the Department explain why farmland sales with more than one class of land are categorized into a single classification for estimating assessment/sales ratios. What is the impact of this procedure on estimation of market value of land classes?

6. From data on rents and market values for each of four classes of land, the Department derives Rent to Value Ratios and its inverse, the Gross Rent Multiplier for rural counties. Ratios differ by land classification.

We recommend that the Department indicate that differing ratios among land classes are expected and are found in data from other states as well. (See *Kansas Land Prices and Cash Rental Rates*, Department of Agricultural Economics, Kansas State University, MF-1100, October 2003.) *We also recommend that these ratios be published for all counties, by land classification.*

7. A measure of comparability is the basis for selecting counties whose Gross Rent Multipliers are used to convert rents in the urban-influenced counties to special values. Factors used to determine comparability include: soil type, moisture, topography, farming practices, similarity of land classification, geographic proximity. Five to seven comparable counties are generally used to provide multipliers that are reconciled into a single multiplier for each urban county.

We recommend that the Department document the procedure involved in the construction and use of the measure of comparability; in particular, the process by which comparability factors are evaluated by whom it is done. The Department could indicate, with examples, how closely the measure of *comparability of rural counties must be to that of special valuation counties in order for a rural county to qualify its data for inclusion in the aggregated Gross Rent Multiplier that is used to derive total special value in urban counties.*

8. Rent to Value Ratios (Gross Rent Multipliers) are “correlated” (the Department’s term for aggregation) from comparable rural counties selected on the basis of units of comparability. These correlated ratios and values are used to calculate special value for four land classes in the eight urban counties. The Department provides examples of the correlation results in its *Reports and Opinions of the Property Tax Administrator.*

We recommend that the Department define “correlated” in its assessment procedure and provide correlated ratios and correlated per acre values for all urban counties.

9. Finally, the Department derives special value for each of four agricultural land classes in eight special valuation counties. The Department then compares the total assessed value to the combined total of special valuations in each urban county. Selected examples are found in *Reports and Opinions of the Property Tax Administrator.*

We recommend that the Department publish these data for all special value counties.

10. In addition, thirteen other counties have a portion of agricultural land adjusted for value; these will be termed “partial revaluation” counties. The counties are Buffalo, Cuming, Dakota, Dawes, Dawson, Dodge, Furnas, Garden, Hitchcock, Keith, Scottsbluff, Seward and York. These counties are considered primarily rural because most of their farmland is not influenced by urban land uses. In counties, for which zoning has been established and agricultural areas thereby identified, individuals may request revaluation of their agricultural parcels so that its assessment accords with the assessed value of similar agricultural land in the county. If the request is approved by the assessor, the assessor will revalue the property to conform to assessments of similar farmland in the county. (The assessors also record the market value of the urban-influenced parcels should they be converted to nonagricultural uses.) Rents and the Gross Rent Multiplier are not used in partial revaluation counties; the county assessors directly substitute agricultural values in the rural portion of the county for land values in the urban-influenced portion of the county.

We recommend that the Department document the procedure that occurs in partial revaluation counties to provide special valuation for qualifying agricultural land

RECOMMENDATIONS FOR FUTURE STUDY

We have four substantive recommendations for the Department. The first two can be done solely within the Department. Recommendation 3 requires consultation with county assessors, and 4 probably requires outside consultation with statisticians or econometricians. Whether or not the four suggestions indicated below are feasible must be judged by the Nebraska Department of Assessment and Taxation.

1. We recommend that the Department, in addition to deriving rent per acre from information obtained within special value counties, continue to supplement these values with rental data from comparable counties. Criteria for selection of counties from which one obtains ancillary rents could include the same factors that measure comparability of counties in the selection of Rent to Value Ratios. Additional rental data, if judged appropriate, can add credibility to the estimation of agricultural market values in urban counties.

2. We recommend that the Department consider selection of more than five to seven counties for inputs in the aggregated Gross Rent Multiplier. Indeed, if the Gross Rent Multipliers for a class of land are similar in most rural counties regardless of the dollar amounts of rents and land value, the Department need not restrict selection to nearby counties.

3. A measure of uniformity within the special value counties could evaluate equity of assessments among individual farm parcels. Such is not currently available. The Department cannot derive uniformity measures from the assessment/sales data for farmland in special value counties because the assessments are purposely not tied to expected market value, and sales value per acre within the same class of land will differ by proximity to urban centers. However, we recommend that the Department explore in the future a means of judging uniformity of agricultural assessments within special value counties. This study could be done with advice from county assessors.

4. Although the data are few and a statistical model would be complex, we suggest that the Department explore the possibility of deriving market value per acre for each class of land directly from data on sales of agricultural land in rural counties. If successful, these market values could be paired with cash rent per acre, for which the Department has data. Note that the likelihood of success for this project is meager.

SUMMARY

The Department of Assessment and Taxation derives the special value of agricultural property in urban-influenced areas with cash rents in special value counties and Gross Rent Multipliers from rural counties. The procedure is straightforward and understandable. The approach does not require either complex guidelines to estimate capitalization rates built up from components of interest rates, or intricate income approaches for valuing farmland that require data for crop prices, federal programs, operating and capital costs, etc.

Recommendations for changes in current procedure primarily deal with providing written documentation for assessors, legislators and the informed public, in addition to providing a summary description of the procedure for the general public. That is, most recommendations call simply for explication and clarification. Other recommendations focus on expanding the sources of rental data for urban counties to include the rural counties as well as the use of more counties to develop the Gross Rent Multipliers for the urban counties.

Finally, we recommend the Department explore additional statistical analyses relative to measuring uniformity and the potential use of regression analysis to determine directly the sale price per acre for specific classes of land.

The integrity of the Department's current procedure for estimating agricultural land values in urban-influenced counties is sound in the absence of the implementation of recommendations in this review.